

What is claimed is:

1. A mobile communication system comprising:

a base station;

5 a mobile station having either one of or both of an individual channel set to said base station, and a shared channel set to said base station shared with other mobile stations for transmitting data from said base station; and

10 a transmission power control device for controlling a sum of transmission powers from said base station to said mobile stations to approximately constant.

2. The mobile communication system according to claim 1, wherein said transmission power control device maintains a sum of transmission powers for said shared channel, and for said individual channels at said constant power.

15 3. The mobile communication system according to claim 1, wherein said transmission power control device sets the transmission power for said shared channel to said constant power when there exists no individual channel.

20 4. The mobile communication system according to claim 1, wherein said transmission power control device respectively increases/decreases the transmission power for said shared channel according to an increased/decreased transmission power because of an increase/decrease of said individual channels.

25 5. The mobile communication system according to claim 4, wherein said transmission power control device respectively increases/decreases the transmission power for said shared channel by an average transmission power of the

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individual channels for an increase/decrease of one individual channel.

6. The mobile communication system according to claim 1, wherein if the sum of said transmission powers is larger  
5 than an upper limit, said transmission power control device decreases the transmission power for said shared channel by a difference between said sum and said upper limit.

7. The mobile communication system according to claim 1, wherein if the sum of said transmission powers is lower  
10 than a lower limit, said transmission power control device increases the transmission power for said shared channel by a difference between said sum and said lower limit.

8. The mobile communication system according to claim 1, wherein said transmission power control device is  
15 provided in said base station.

9. The mobile communication system according to claim 1, further comprising a base station control station for  
controlling said base station, wherein said base station reports information for said transmission power control to  
20 said base station control station, and said base station control station notifies setting information on the transmission power for said shared channel based on the reported information.

10. A transmission power control method for a base  
25 station of a mobile communication system including a base station, and a mobile station having either one of or both of an individual channel set to said base station, and a shared channel set to said base station shared with other

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mobile stations for transmitting data from said base station,  
said method comprising,

a transmission power control step for controlling a  
sum of transmission powers from said base station to said  
5 mobile stations to approximately constant.

11. The transmission power control method according to  
claim 10 wherein said transmission power control step  
maintains a sum of transmission powers for said shared  
channel, and for said individual channels at said constant  
10 power.

12. The transmission power control method according to  
claim 10, wherein said transmission power control step sets  
the transmission power for said shared channel to said  
constant power when there exists no individual channel.

13. The transmission power control method according to  
15 claim 10, wherein said transmission power control step  
respectively increases/decreases the transmission power for  
said shared channel according to an increased/decreased  
transmission power because of an increase/decrease of said  
20 individual channels.

14. The transmission power control method according to  
claim 13, wherein said transmission power control step  
respectively increases/decreases the transmission power for  
said shared channel by an average transmission power of the  
25 individual channels for an increase/decrease of one  
individual channel.

15. The transmission power control method according to  
claim 10, wherein if the sum of said transmission powers is

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larger than an upper limit, said transmission power control step decreases the transmission power for said shared channel by a difference between said sum and said upper limit.

5           16. The transmission power control method according to claim 10, wherein if the sum of said transmission powers is lower than a lower limit, said transmission power control step increases the transmission power for said shared channel by a difference between said sum and said lower  
10   limit.

          17. The transmission power control method according to claim 10, wherein said transmission power control step is conducted in said base station.

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15           18. The transmission power control method according to claim 10, wherein the mobile communication system further comprises a base station control station for controlling said base station, further comprising steps of:

          reporting information for said transmission power control to said base station control station in said base  
20   station;

          notifying setting information on the transmission power for said shared channel based on the reported information in said base station control station; and

          conducting said transmission power control according  
25   to this notified information in said base station.

          19. A base station for setting either one of or both of an individual channel with a mobile station and a shared channel shared with other mobile stations for transmitting

data from the mobile station, comprising;

a transmission power control device for controlling a sum of said transmission powers to said mobile stations to approximately constant.

5           20. The base station according to claim 19, wherein said transmission power control device maintains a sum of transmission powers for said shared channel, and for said individual channels at said constant power.

10           21. The base station according to claim 19, wherein said transmission power control device sets the transmission power for said shared channel to said constant power when there exists no individual channel.

15           22. The base station according to claim 19, wherein said transmission power control device respectively increases/decreases the transmission power for said shared channel according to an increased/decreased transmission power because of an increase/decrease of said individual channels.

20           23. The base station according to claim 22, wherein said transmission power control device respectively increases/decreases the transmission power for said shared channel by an average transmission power of the individual channels for an increase/decrease of one individual channel.

25           24. The base station according to claim 19, wherein if the sum of said transmission powers is larger than an upper limit, said transmission power control device decreases the transmission power for said shared channel by a difference between said sum and said upper limit.

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25. The base station according to any one of claim 19,  
wherein if the sum of said transmission powers is lower than  
a lower limit, said transmission power control device  
increases the transmission power for said shared channel by  
5 a difference between said sum and the lower limit.

26. A program for making a computer execute a process  
for a transmission power control method for a base station  
of a mobile communication system including a base station,  
and a mobile station having either one of or both of an  
10 individual channel set to said base station, and a shared  
channel set to said base station shared with other mobile  
stations for transmitting data from said base station  
comprising a transmission power control step for controlling  
a sum of transmission powers from said base station to said  
15 mobile stations to approximately constant.

27. The program according to claim 26, wherein said  
transmission power control step maintains a sum of  
transmission powers for said shared channel, and for said  
individual channels at said constant power.

20 28. The program according to claim 26, wherein said  
transmission power control step sets the transmission power  
for said shared channel to said constant power when there  
exists no individual channel.

29. The program according to claim 26, wherein said  
25 transmission power control step respectively  
increases/decreases the transmission power for said shared  
channel according to an increased/decreased transmission  
power because of an increase/decrease of said individual

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channels.

30. The program according to claim 29, wherein said transmission power control step respectively increases/decreases the transmission power for said shared  
5 channel by an average transmission power of the individual channels for an increase/decrease of one individual channel.

31. The program according to claim 26, wherein if the sum of said transmission powers is larger than an upper limit, said transmission power control step decreases the  
10 transmission power for said shared channel by a difference between said sum and said upper limit.

32. The program according to claim 26, wherein if the sum of said transmission powers is lower than a lower limit, said transmission power control step increases the  
15 transmission power for said shared channel by a difference between said sum and said lower limit.

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